3.0 HABITAT INFORMATION

Critical habitat is defined in section 3 of the Endangered Species Act (ESA) as: (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. "Conservation" means the use of all methods and procedures needed to bring an endangered or threatened species to the point at which listing under the ESA is no longer necessary.

Critical habitat receives protection under section 7 of the ESA through the prohibition against destruction or adverse modification of critical habitat with regard to actions authorized, funded, or carried out by a Federal agency. Section 7 of the ESA also requires conferences on Federal actions that are likely to result in the destruction or adverse modification of proposed critical habitat. Aside from the added protection that may be provided under section 7, the ESA does not provide other forms of protection to lands designated as critical habitat. Because consultation under section 7 of the ESA does not apply to activities on private or other non-Federal lands that do not involve a Federal nexus, critical habitat designation would not afford any additional regulatory protections under the ESA against such activities.

To be included in a critical habitat designation, the habitat must first be "essential to the conservation of the species." Critical habitat designations identify, to the extent known using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Habitat must also require special management or protection to be included in critical habitat. Critical habitat identifies those areas that need alteration or protection to provide for the recovery of the species. The USFWS does not include areas where existing management is sufficient to conserve the species.

The regulations state that, "The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species" (50 CFR 424.12(e)). Accordingly, when the best available scientific and commercial data do not demonstrate that the conservation needs of the species so require, USFWS will not designate critical habitat in areas outside the geographic area occupied by the species.

Section 4(b)(2) of the ESA requires that USFWS take into consideration the economic impact, impacts to national security, and any other relevant impact, of specifying any particular area as critical habitat. USFWS may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species.

USFWS Policy on Information Standards Under the ESA, published in the Federal Register on July 1, 1994 (59 FR 34271), provides criteria, establishes procedures, and provides guidance to ensure that decisions made by the USFWS represent the best scientific and commercial data available. It requires USFWS biologists, to the extent consistent with the ESA and with the use of the best scientific and commercial data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

Critical habitat designations do not signal that habitat outside the designation is unimportant to desert yellowhead. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1), and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the section 9 take prohibition, as determined on the basis of the best available information at the time of the action. USFWS specifically anticipates that federally funded or assisted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts.

Methods

In determining areas that are essential to conserve desert yellowheads, USFWS used the best scientific information available, as required by the Act and regulations (section 4(b)(2) and 50 CFR 424.12). USFWS reviewed available information that pertains to the habitat requirements of this species, including information from the final rule listing the species as threatened (67 FR 11442; March 14, 2002), data from research and survey observations at the known population site, status reports compiled by the WYNDD, the BLM's RMP/Environmental Impact Statement for the Lander Resource Area (1986), Geological Survey Bulletins regarding the geology of central Wyoming and the Beaver Rim area, data regarding soils at the known population site, and discussions with botanical experts and BLM employees.

USFWS mapped critical habitat based on USGS 7.5" quadrangle maps (Dishpan Butte and Sweetwater Station, Wyoming). USFWS included the areas occupied by the subpopulations of desert yellowhead based on existing maps of the subpopulations, as well as site visits by USFWS and BLM employees. USFWS included adjacent areas of suitable soils and vegetative communities to allow for maintenance of the seed bank and dispersal. Additionally, USFWS identified areas with topographic features (outcroppings, cliffs, and hills) influencing the microscale dynamics of local winds, erosional processes, and hydrologic processes needed to maintain the integrity of the shallow deflation hollows providing desert yellowhead habitat, as well as the sheet wash that provides increased moisture to the habitat. USFWS delineated the boundary of this area using section lines and quarter-section lines where feasible, in order to facilitate BLM management and enforcement.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, USFWS must consider those physical and biological features (Primary Constituent Elements, PCEs) that are essential to the conservation of the species, and that may require special management considerations or protection. These include, but are not limited to: space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species. The area designated as critical habitat for desert yellowhead is within the geographical area presently occupied by the species and contains these physical or biological features (PCEs) essential for the conservation of the species.

The Primary Constituent Elements for desert yellowhead consist of, but are not limited to:

(1) Recent soils derived from sandstones and limestones of the Split Rock Formation at its junction with the White River Formation. These are shallow, loamy soils of the Entisol order that can be classified as course-loamy over sandy-skeletal, mixed, Lithic Torriorthent. The surface stratum

has little organic matter and subsurface layers show no accumulation of humus, clay, gypsum, salts, or carbonates.

(2) Plant communities associated with desert yellowhead include, but may not be limited to, sparsely-vegetated cushion plant communities with scattered clumps of Indian ricegrass (*Oryzopsis hymenoides*) between 6,700 and 6,800 feet in Fremont County, Wyoming. Species common to these communities include Hooker's sandwort (*Arenaria hookeri*), thistle milkvetch (*Astragalus kentrophyta*), stemless hymenoxy (*Hymenoxys acaulis*), and squarestem phlox (*Phlox muscoides*). These cushion-plant communities also contain natural openings.

(3) Topographic features/relief (outcroppings, cliffs, and hills) and physical processes, particularly hydrologic processes, that maintain the shape and orientation of the hollows characteristic of *Yermo xanthocephalus* habitat (through microscale dynamics of local winds and erosion) and maintain moisture below the surface of the ground (through sheet wash from the adjacent outcroppings, cliffs, and hills).

Criteria Used To Identify Critical Habitat

USFWS identified critical habitat essential for the conservation of desert yellowhead in the only area where it is known to occur. There are no known historic locations for this species. While acknowledging the high degree of threat that arises from chance catastrophic events given the limited geographic distribution of this species, USFWS found no compelling evidence that the plant ever existed at other locations. USFWS believes conservation of the species can be achieved through management of threats to the population within this designation of critical habitat.

Given the clustered distribution pattern of desert yellowhead and the assumption that dispersal distances are short and possibly fostered by water erosion, a limited amount of critical habitat is essential for maintenance of the seed bank and dispersal. Additionally, the persistence of the species requires some surrounding habitat to maintain the ecological processes that allow the population and the PCEs to persist.

Areas that support newly discovered populations in the future, but are outside the critical habitat designation, will continue to be subject to conservation actions that may be implemented under section 7(a)(1) of the ESA and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the prohibitions of section 9 of the ESA, as determined on the basis of best available information at the time an action is proposed.

Critical Habitat Designation

The critical habitat areas described below include one or more of the primary constituent elements described above and constitute the best assessment at this time of the areas needed for the conservation of desert yellowhead. The site includes the only known location where the species currently occurs and, as such, is essential.

The designated critical habitat is approximately 360 acres of Federal lands managed by BLM in the Beaver Rim area approximately 6 miles north of Sweetwater Station in southern Fremont County, Wyoming (see **Map 2**). Within this area, desert yellowhead occurs in sparsely-vegetated cushion plant communities associated with shallow soils on low slopes, rim margins, colluvial fans, and bottoms within deflation hollows. Additionally, USFWS included areas supporting topographic features (outcroppings, cliffs, and hills) influencing the microscale dynamics of local winds, erosional processes, and hydrologic processes needed to maintain the integrity of the shallow deflation hollows providing desert yellowhead

habitat, as well as the sheet wash that provides increased moisture to the habitat. Within the critical habitat, desert yellowhead occurs in 3 subpopulations with a total population size of 11,967 plants in 2001 (USFWS 2004). Dispersal from these subpopulations is limited and frequently occurs along colluvial washes.